

## REMARKS

### *1. Status of claims*

After entry of the above amendment, claims 1-23, 102, and 129-130 are pending.

### *2. Support for amendment*

The above amendment finds support at p. 5, lines 13-15; p. 6, lines 9-11; p. 16, line 18; and p. 25, line 13 to p. 26, line 2. No new matter has been added by this amendment.

### *3. Claim rejections under 35 U.S.C. § 112, second paragraph*

The Examiner rejected claims 1, 2-23 and 102 on the grounds the recitation of “essentially no ethanol” rendered the claims indefinite. By the above amendment, claim 1 recites “less than about 1 ppm ethanol,” which is definite and has support in the specification. Claims 2-23 depend on claim 1. Claim 102 did not have the recitation in question. Therefore, Applicants submit the basis for this rejection of claims 1, 2-23 and 102 has been removed and request the rejection be withdrawn.

### *4. Claim rejections under 35 U.S.C. § 112, first paragraph*

The Examiner rejected claims 1-10, 12-20, 22-23, and 102 as containing subject matter which did not comply with the written description requirement. In light of the above amendment, Applicants submit the basis for this rejection has been removed.

Specifically, the Examiner indicated the specification did not describe all lactose dehydrogenase (LDH) genes previously recited by claims 1 or 102. By the above amendment, the claims recite AT yeast strains expressing specific LDH genes encoding proteins having the

amino acid sequences of known LDH genes reported by the specification at p. 6, lines 8-11.

Specific examples of such known LDH genes are reported by the specification as being available on Genbank under accession numbers AJ293008, NP 776524, M76708, M22305, Q9P4B6, and M19396. Applicants submit the basis for this rejection of claims 1-10, 12-20, 22-23, and 102 is therefore removed and request it be withdrawn.

The Examiner also rejected claims 1-10, 12-23, and 102 as not being enabled. In light of the above amendment, Applicants submit the basis for this rejection has been removed.

Specifically, the Examiner indicated the specification did not provide enablement for any method save that using AT yeast strains NRRL Y-30696, NRRL Y-30697, or NRRL Y-30698, expressing an LDH gene from *Lactobacillus plantarum* in plasmid YEpLDH. Applicants submit the specification provides enablement for the use of any AT yeast strain and any LDH gene encoding the amino acid sequence of an LDH gene reported by the specification at p. 6, lines 8-11. The LDH genes reported at that passage have known, publicly available sequences; it is a routine matter for the skilled artisan to determine the amino acid sequence encoded by a nucleic acid sequence; and it is a routine matter for the skilled artisan to prepare a gene encoding that amino acid sequence. In addition, the preparation of yeast expression vectors and their transformation into and expression by yeast strains are also routine matters for the skilled artisan. Further, the skilled artisan having the benefit of the specification's teachings at p. 33, lines 11-20 would be able to prepare acid tolerant yeast as a matter of routine experimentation. In sum, the specification enables the skilled artisan to perform the method recited by claims 1-10, 12-23, and 102, and Applicants submit the basis for this rejection is therefore removed and request it be withdrawn.

5. *Claim rejections under 35 U.S.C. § 102*

The Examiner rejected claims 1-9, 12-23, and 102 under 35 U.S.C. § 102(e) as being anticipated by Hause *et al.*, US 2003/0228671 (“Hause”). Allegedly, Hause teaches the use of various recombinant yeast expressing an exogenous LDH gene to produce lactic acid with high yield at low pH and, from this, the Examiner concluded Hause teaches every element of the present claims. Applicants traverse this rejection.

Claims 1 and 102, and all claims dependent thereon, recite a method of producing lactic acid comprising a step of performing selection on a parent yeast strain to yield an acid-tolerant yeast strain. Hause, in contrast, is silent regarding the production of acid tolerant yeast strains by performing selection on parent yeast strains. Therefore, Hause does not teach every element of claims 1 or 102 or any claim dependent thereon, and Applicants request this rejection of claims 1-9, 12-23, and 102 be withdrawn.

The Examiner also rejected claims 1-10, 12-23, and 102 under 35 U.S.C. § 102(e) as being anticipated by Rajgarhia *et al.*, US 2004/0029238 (“Rajgarhia”). Allegedly, Rajgarhia teaches the use of various recombinant yeast expressing an exogenous LDH gene to produce lactic acid with high yield at low pH in minimal medium and, from this, the Examiner concluded Rajgarhia teaches every element of the present claims. Applicants traverse this rejection.

Claims 1 and 102, and all claims dependent thereon, recite a method of producing lactic acid comprising a step of performing selection on a parent yeast strain to yield an acid-tolerant yeast strain. Rajgarhia, in contrast, is silent regarding the production of acid tolerant yeast strains by performing selection on parent yeast strains. Therefore, Rajgarhia does not teach every element of claims 1 or 102 or any claim dependent thereon, and Applicants request this rejection of claims 1-10, 12-23, and 102 be withdrawn.

6. *Conclusion*

Applicants submit all pending claims are allowable. The Examiner is invited to contact the undersigned patent agent at (713) 934-4065 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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